

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

MIDWAY MFG. CO.,

Plaintiff,

-vs-

ARTIC INTERNATIONAL, INC.,

Defendant.

NO. 80 C 5863

MEMORANDUM OPINION AND ORDER

Plaintiff, Midway Manufacturing, Inc. ("Midway"), brought this action against defendant, Artic International, Inc. ("Artic"), raising claims based on copyright infringement, trademark infringement, unfair competition at common law, violation of Section 43(a) of the Lanham Act of 1946, 15 U.S.C. §1125(a), violation of the Illinois Deceptive Trade Practices Act, Ill.Rev.Stat. ch. 121-1/2, §312, and misappropriation at common law. Pending are plaintiff's motion for preliminary injunction and defendant's motion for summary judgment on copyright issues. On September 28 and 29, 1981, the court held a hearing and took testimony concerning Midway's motion for preliminary injunction. All post-hearing briefs requested by the parties have now been filed, and, after consideration of them and the transcript of the hearing, the court hereby enters the following opinion and order.

Facts

The bulk of Midway's business consists of manufacturing and selling video games. Two of those games are the subjects of

this lawsuit, Galaxian and Pac-Man. Allegedly, Artic is selling electronic devices that are intended to simulate Midway's Galaxian and Pac-Man games as well as devices that are designed to be inserted into Midway's Galaxian game to speed up and otherwise alter the play of the game (hereinafter "speed-up kits"). Those devices form the basis of this suit.

Both of Midway's games consist of an upright cabinet equipped with controls manipulated by the player while playing the game. The cabinet contains electronic circuitry in the form of a printed circuit board, which is electrically connected to a television picture tube. The tube serves as a screen on which the visual images of the game are displayed. Before the player begins a game by inserting a coin, Midway's Galaxian and Pac-Man games operate in an "attract" mode, which is stored in the electronic components of the game. The attract mode is fairly short and repeats itself constantly until the game is played. Its purpose is to summarize the game for the prospective player and to encourage him to play the game. When a coin is deposited and the start button depressed, the games shift into the "play" mode. In that mode, some of the symbols of the game appear to respond to the operation of the controls by the player.

In general, the video games manufactured by Midway and others, including Galaxian and Pac-Man, contain printed circuit boards "loaded" with the electronic components, which cause the images of the game to be seen on the television screen and which generate the sounds the game makes while it is being played. Those

components include a microprocessor, which is a small computer processing unit, and computer chips called ROMs. The term ROM stands for "read only memory." It is a device which contains the instructions for a computer program in a permanently stored manner.

A printed circuit board used in Midway's Galaxian was shown to the court at the hearing. The board is two-tiered, consisting of a relatively large "mother board" which served as the base, and a smaller "piggyback memory board" mounted on the top of the mother board. The mother board contained a microprocessor and two "character ROMs," in which the computer programs necessary to create the shapes seen on the screen are stored. The Galaxian piggyback board is made up of five ROMs on its top side and two sets of twenty-four pins descending out from its bottom. The pins fit into sockets on the mother board and connect the ROMs on the piggyback board to the microprocessor on the mother board. The ROMs on the piggyback board (hereinafter "program ROMs") contain permanently imprinted computer programs which direct the microprocessor to cause the images created by the character ROMs to appear in certain locations on the television screen.

When the Galaxian game is in the attract mode, the repeating sequence of images summarizing the game for the player is generated by instructions from the program ROMs. After a coin is inserted and the game goes into the play mode, the images generated by the character ROMs move on the screen in a finite but enormous number of sequences. The sequences are determined by the program

ROMs. In other words, when a player moves the controls on the cabinet, an electric signal is sent to the microprocessor, which scans the program ROMs for the predetermined sequence in which the images are to move on the screen. If a player were to move the controls of either a Pac-Man or Galaxian video game in exactly the same way in two different plays of the game, the images on the screen would all move in exactly the same way.

Midway's Pac-Man video game is made up of essentially identical electronic equipment. The principles of operation for the Pac-Man game are the same as those discussed above for the Galaxian game. Of course, the programs contained in the ROMs are considerably different.

The court observed both the Galaxian and Pac-Man games at the hearing. The elements of the Galaxian game appear on a background star pattern consisting of twinkling colored lights that roll from the top of the screen to the bottom. The game involves a missile-firing ship operated by the player, plus a formation of enemy alien ships. The player's ship moves horizontally along the bottom of the screen, in response to the manipulation of the controls by the player. The aliens are arranged in a convoy of five horizontal rows at the top of the screen. There are four denominations or ranks of aliens, with the highest ranking farthest from the player's ship. Each rank has a distinguishing color. The highest ranking alien is shaped like a rocket ship, but the other ranks are birdlike with flapping wings. During play, individual aliens unpredictably invert and swoop down to bomb the player's ship. Some-

times the alien attack involves miniformations of up to three aliens, including one of the highest ranking alien ships plus one or two alien escort ships. The object of the game is to destroy as many of the alien ships as possible while avoiding the destruction of your missile ship by the alien bombers. Whenever a ship is destroyed, a bright explosion appears on the screen, with appropriate sound effects. The player's score is measured by the number and rank of aliens destroyed.

The Pac-Man game centers on a maze which covers the entire screen. Using the controls, the player guides the Pac-Man character through the maze, scoring points by "munching up" dots in its path. Four ghost monsters, named Inky, Blinky, Pinky, and Clyde, chase after the Pac-Man, attempting to capture and destroy him. The Pac-Man can counterattack by eating one of four large power capsules in the maze. For a short time after eating the capsule, the Pac-Man can devour the monsters for an additional score. After all the dots in the maze are consumed, the screen is cleared, and the game continues for another round. Each round features a special fruit target in the maze, which if eaten earns bonus points.

Both the games in this suit were created by Namco Limited, a Japanese company. Galaxian was created in 1979, and was first published in Japan by Namco on September 15, 1979. Pac-Man was created in 1980 and was first published in Japan under the name "Puckman" on May 27, 1980. Midway became aware of the two games and concluded that both could be profitably marketed in the United States. On November 13, 1979, Midway and Namco entered into a know-how license agreement in which Namco granted Midway an ex-

clusive license to make and sell the Galaxian game in the United States. On February 2, 1980, Namco assigned to Midway, effective as of the date of the license agreement, "the entire right, title and interest in common law and statutory copyright" in the Galaxian game. The Galaxian agreements have been amended a number of times, but they still remain in effect. As of August 16, 1980, Namco assigned the U. S. copyright rights in the "Pac-Man or Puckman" game to Midway. On November 4, 1980, Midway and Namco entered into a formal know-how license agreement in which Midway received the exclusive rights to market the Pac-Man game in the United States under that name. The Pac-Man agreements are likewise still in effect. Midway has made substantial royalty payments to Namco under both agreements.

Both the Pac-Man and Galaxian video games have been extremely successful products for Midway. Since February 1980, Midway has sold in excess of 40,000 Galaxian games, and since October 1980, over 80,000 Pac-Man games. Prior to 1978, the average production run on a video game was from 1500 to 2000 units.

Recognizing the value of these two games, Midway sought to register its copyright in the audiovisual portion of the games.¹ Midway initially attempted to register the copyright in the Galaxian game in early March 1980. At that time, a Midway attorney met with examiners in the Copyright Office visual arts and performing arts groups to determine what would be the proper form of deposit to register the visual images of the game. After some discussion, the per-

performing arts division examiner agreed that a performing arts application should be filed and that an acceptable deposit would consist of a video tape of a performance of the game and a written "Synopsis of Deposit."

On March 6, 1980, Midway's attorney filed a performing arts application to register the Galaxian game and deposited a video tape, a brochure for the game, and other materials including a written "Synopsis of Deposit." The video tape was recorded at Midway's plant in Franklin Park, Illinois. It presents a performance of the play mode of the Galaxian game, and there is a closeup of the game screen to show the copyright notices. At the end of the tape is a view of the entire game showing the full cabinet bearing Midway's name.

The Copyright Office granted the application and issued Certificate of Copyright Registration No. PA 59-977, effective as of March 6, 1980. The certificate states that the work for which the copyright is registered is entitled "Galaxian" or "Midway's Galaxian", that the work is an audiovisual work, that Namco is the author of the work, that the work was created in 1979, and that it was first published in Japan on September 15, 1979.

Midway also obtained a Certificate of Copyright Registration No. PA 68-323 specifically for the Galaxian attract mode which was not included in the videotape deposit for PA 59-977, and Certificate of Copyright Registration PA 83-768 for the entirety of the Pac-Man game. For each certificate, Midway submitted a video tape and a written synopsis of the deposit with the application.

In a July 14, 1981, letter, Ms. Marybeth Peters, Chief of the Examining Division of the Copyright Office, confirmed that, on an ongoing basis, the deposit requirements for copyright protection of video games would consist of a video tape of the attract and play modes of the games, a synopsis of the work, and at least one piece of identifying material showing the position of the copyright notice. The rationale for allowing such a deposit was given as follows:

"The Copyright Office certainly does not want the actual video games deposited for registration. Unfortunately, under the present regulations, there is no specific provision for the deposit of audiovisual works embodied in video games. I am, therefore, granting your request for special relief on an ongoing basis."

Every Galaxian and Pac-Man game sold by Midway contains a number of copyright notices. One copyright notice appears on the glass cover over the video screen of the Galaxian game and is in the form of a clear decal. Also, the notice appears on the Galaxian printed circuit board. In the Pac-Man game, one copyright notice is displayed electronically on the screen immediately after a coin is deposited, and a notice is attached to the Pac-Man circuit board and to each of its ROMs.

The evidence presented at the hearing showed that defendant Artic sells two devices which Midway contends violate its rights in the Galaxian and Pac-Man games. The first of those items is a speed-up kit, which, when attached to the Galaxian game, modifies the way the images move on the screen. Essentially, the effect of the speed-up kit is to cause the aliens to move faster and to increase to six the number of aliens that attack the player's ship in forma-

tion. In addition, the aliens in the sped-up version drop more bombs on the player's ship. The obvious result of attaching the speed-up kit to a Galaxian game is to make the game more difficult to play, dramatically shortening the time that it takes for a player to lose his rocket ships and be forced to insert an additional coin to continue play. Artic itself recognized that that was the purpose of the speed-up kit in its earliest advertisements directed to video arcade owners. The advertisements read in part:

"TRY OUR MEMORY BOARDS TO DOUBLE YOUR
GALAXIAN INCOME."

Artic has sold at least 436 speed-up kits.

The Artic speed-up kit is made up of a relatively small printed circuit board with five devices called "EPROMs" (apparently similar to ROMs in function) on the top and two sets of pin connectors on the bottom. The two sets of connectors are spaced in such a way as to permit them to be plugged into the sockets in the Galaxian mother board into which the Galaxian piggyback memory board is normally plugged. The EPROMs on the speed-up kit contain a complete set of instructions necessary to cause the characters of the Galaxian game to move in a faster sequence.

Both the computer instructions in the ROMs on the Galaxian piggyback board and the instructions in the speed-up kit's EPROMs can be printed out on paper by a standard industry procedure using a machine known as a "development machine." That machine was used to print out the instructions in the Midway's ROMs and Artic's EPROMs. Dr. Thomas DeFanti, a professor of computer science at the University of Illinois, compared the two printed versions of the instructions. He found that out of about 10,000 "bytes" or computer words

of source code in the two sets of programs, there were only about 488 differences. Dr. DeFanti's conclusion was, "[I]t is a clear case of copying here."

The use of the speed-up kit is substantially limited to attaching it to Galaxian games. In order for the kit to work on other games, Artic's printed circuit board would have to be able to plug into the mother board of those games. In other words, the sockets on the mother board would have to be spaced in a manner to correspond to the connector pins on the speed-up kit. Also, the sockets would have to be properly connected electrically to the microprocessor. Finally, the programming language used in the EPROMs of the Artic kit would have to be compatible with the language read by the microprocessor on the mother board.

At the hearing, Artic demonstrated that the speed-up kit could be attached to two video games called "Uniwars" and "Moon Cresta." However, attaching the speed-up kit to those games substantially changed them. The kit caused the phrase "WE ARE THE GALAXIANS" to appear on the screen of both games in the attract mode. With the kit attached, the character images of the games assembled in a formation identical to the formation of the aliens in the Galaxian game and moved in exactly the same way as in the sped up version of the Galaxian game. When the games were played normally, without the speed-up kit attached, the images did not appear in such a formation, nor did they move in a manner similar to the Galaxian aliens. Midway presented evidence at the hearing showing that it was physically impossible to fit the speed-up kit into the mother boards of several other video games.

The second item sold by Artic that is of interest in this litigation is a printed circuit board that is used to create a "Puckman" video game. Artic first sold a Puckman circuit board on November 25, 1980, after it became aware of the existence of Namco's Puckman game. In sum, Artic has sold between 500 and 1600 Puckman printed circuit boards in the United States.

The court viewed the Puckman game generated by Artic's printed circuit board. The only differences between Artic's Puckman game and Midway's Pac-Man game are (1) the names of the ghost characters in Artic's game are different from the names of Midway's characters, (2) the Midway copyright notice does not appear on Artic's game, and (3) the name of the game is different. Other than those trivial differences, the Artic game is absolutely identical to Midway's Pac-Man video game described above. In fact, it was demonstrated at an earlier hearing before the United States International Trade Commission that Artic's Puckman printed circuit board contains an error common to Midway's Pac-Man game.

Prior to the inception of this litigation, when Artic first began to sell its speed-up kits and Puckman circuit boards, it listed the names of its products on its invoices. Sometime in early 1981, after this suit was instituted, Artic began referring to its products by code designations. For example, the code "A 07" was used to refer to Puckman circuit boards. Then, in April 1981, Artic ceased referring to particular circuit boards entirely on its invoices, and began writing the term "P. C. Board" or its equivalent on invoices for the sale of Puckman circuit boards.

Discussion

The following four factors are to be considered in determining whether plaintiff is entitled to the entry of a preliminary injunction in its favor: (1) likelihood of success on the merits; (2) irreparable harm if the injunction is not issued; (3) that the balance of hardships tips toward the plaintiff; and (4) whether or not granting the injunction is in the public interest. See The Machlett Laboratories, Inc. v. Techny Industries, Inc., 665 F.2d 795 (7th Cir. 1981); Helene Curtis Industries, Inc. v. Church & Dwight Co., 560 F.2d 1325, 1330 (7th Cir. 1977), cert. denied, 434 U.S. 1070 (1978); Banks v. Trainor, 525 F.2d 837, 841 (7th Cir. 1975), cert. denied, 424 U.S. 978 (1976).

I. Likelihood of Success -- Copyright Claim

* Defendant Artic has launched a massive scattershot of arguments against the validity and application of Midway's copyrights in the games involved in this case. The court will attempt to deal with each of defendant's arguments in an organized fashion below.

A. Scope of Copyright Protection

In registering its copyrights with the U. S. Copyright Office, Midway chose to register the sights and sounds of the Galaxian and Pac-Man games as audiovisual works. See 17 U.S.C. §102(a)(6). "Audiovisual works" are defined in the Copyright Act as

"works that consist of a series of related images which are intrinsically intended to be shown by the use of machines or devices such as projectors, viewers, or electronic equipment, together with accompanying sounds, if any, regardless of the nature of the material objects, such as films or tapes, in which the works are embodied."

17 U.S.C. §101. At this point, it is useful to delineate exactly what plaintiff contends its copyrights cover. Plaintiff claims copyright protection only in the series of images and sounds appearing on the screen on the Galaxian and the Pac-Man games. Specifically, the protection extends to the fanciful design of the characters used to play the games, the distinctive manner in which the characters move, and the sounds associated with that movement. Several courts have recently concluded that those aspects of plaintiff's video games are the proper subjects of copyright protection. See Atari, Inc. v. North American Phillips Consumer Electronics Corp., No. 81-2920, Slip Op. at 14-21 (7th Cir. March 2, 1982); Stern Electronics, Inc. v. Kaufman, No. 81-7411 (2d Cir. Jan. 20, 1982); Midway Manufacturing Co. v. Drikschneider, No. 81-0-243 (D.Neb. July 15, 1981); Williams Electronics, Inc. v. Artic International, Inc., Civ. No. 81-1852 (D. N.J. June 24, 1981).

Throughout this litigation, Artic has contended that the plaintiff's copyright protection extends only to the particular videotapes submitted to the Copyright Office for registration. Artic's argument rests largely upon the general deposit requirements of 17 U.S.C. §408, which state:

"(b) Deposit for Copyright Registration.--Except as provided by subsection (c), the material deposited for registration shall include --

"(3) in the case of a work first published outside the United States, one complete copy or phonorecord as so published[.]"

Artic claims that since the videotapes were submitted as "copies" of the works, the works that Midway sought to copyright were only those tapes, not the games themselves.

Midway sharply disagrees with the argument made by Artic. Midway argues that the videotapes were not "copies" of the works but rather were identifying material submitted in lieu of actual copies of the works, pursuant to Copyright Office regulations authorized by 17 U.S.C. §408(c). While Midway does recognize that there are no regulations specifically covering video games, there are regulations for "[w]orks reproduced in or on three-dimensional objects." 37 C.F.R. §202.20(c)(2)(ix). The deposit requirement for such works may be met by submitting "identifying material," Id., which is defined as:

"photographic prints, transparencies, photostats, drawings, or similar two-dimensional reproductions or renderings of the work, in a form visually perceivable without the aid of a machine or device."

37 C.F.R. §202.21. The brochures submitted along with the videotapes would best satisfy that definition, with the result that the games themselves, not just the videotapes, are the subjects of the copyrights.

While there is substantial force to Midway's arguments, the court finds that it does not need to rely on the technicalities of the Copyright Office's regulations to find that Midway's copyrights cover the video games themselves, and not just the videotapes. Artic's argument to the contrary fails, because it relies on a far narrower definition of the word "copy" than that used in the Copyright Act. In the Act, the term "copies" is defined as follows:

"'Copies' are material objects, other than phonorecords, in which a work is fixed by any method now known or later developed, and from which the work can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device."

17 U.S.C. §101. That definition makes clear that a copy may be made in any medium whatsoever, so long as the work can be perceived from it. The videotape submitted to the Copyright Office is no less a copy of Midway's audiovisual work, than the game machine itself is. As this court said in an earlier opinion in this case,

"It should be emphasized that merely because the work is fixed in the tapes submitted to the Copyright Office, it does not necessarily follow that the tapes are the works themselves. The original work of authorship should not be confused with the material objects in which the work must be fixed. See, 1 Nimmer on Copyrights §2.03."

Midway Manufacturing Co. v. Artic International, Inc., No. 80 C 5863, slip op. at 16 (N.D.Ill. June 2, 1981) (order denying defendant's motion for summary judgment). Here, the videotapes were merely copies of the work. The work, for which copyright protection was granted, is the audiovisual display reflecting the author's creativity.

B. Validity of Midway's Copyrights

Section 410(c) of the Copyright Act, 17 U.S.C. §410(c), provides that a certificate of registration from the Copyright Office "shall constitute prima facie evidence of the validity of the copyright." As noted above, plaintiff Midway has received Certificates of Copyright Registration from the Copyright Office covering both its Galaxian and Pac-Man games. Artic has the burden of overcoming that presumption of validity in this case. See Flick-Reedy Corp. v. Hydro-

Line Manufacturing Co., 351 F.2d 546 (7th Cir. 1965), cert. denied, 383 U.S. 958 (1966).

Artic makes three arguments which it contends overcome the presumption of validity. First, Artic contends that the audiovisual aspects of Midway's video games are not "fixed in any tangible medium of expression," 17 U.S.C. §102(a), and so do not qualify for copyright protection at all. Second, Artic claims that the publication of the video games by Namco in Japan, without the proper copyright notice attached, resulted in forfeiture of the copyrights under 17 U.S.C. §401. Finally, Artic argues that the video games may not be copyrighted because they are useful, mechanical devices not subject to copyright protection. Each of Artic's contentions will be considered in turn.

Before a copyright can attach in any original work of authorship, the work must be "fixed in any tangible medium of expression, now known or later developed, from which [it] can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device." 17 U.S.C. §102(a). The phrase is defined in the Copyright Act as follows:

"A work is 'fixed' in a tangible medium of expression when its embodiment in a copy or phonorecord, by or under the authority of the author, is sufficiently permanent or stable to permit it to be perceived, reproduced, or otherwise communicated for a period of more than transitory duration."

17 U.S.C. §101.

Artic contends that the audiovisual displays of Midway's games do not meet that requirement. Artic's argument is based on the specific technology by which the images that appear on the game screens are generated. Basically, Artic notes that the ROMs in the video games

do not contain enough memory to store the entire picture that appears on the game's screen at any one instant. Rather, the ROMs contain a number of symbols or patterns which are combined in various ways by the microprocessor to make up the images seen on the screen. Artic argues, therefore, that the computer is simply generating a new set of pictures at all times, pictures that are themselves not fixed in any medium.

While Artic's argument has a certain facial validity, it nonetheless fails. The fixation requirement, as is clear from the statute, does not require that the work be written down or recorded somewhere exactly as it is perceived by the human eye. Rather, all that is necessary for the requirement to be satisfied is that the work is capable of being "reproduced . . . with the aid of a machine or device." 17 U.S.C. §102(a). As was amply demonstrated by Midway at the hearing, the audiovisual features of its games may be reproduced over and over again, for extended periods of time. The attract modes of the two games, for instance, repeat themselves over and over again, in identical fashion, for as long as the games are turned on and no one is playing them. The copyrightable aspects of the play mode likewise repeat themselves whenever the game is played.

Artic attempts to draw support for its position from a statement in the Report of the House Judiciary Committee on the Copyright Act. The Judiciary Committee stated:

"[T]he definition of 'fixation' would exclude from the concept purely evanescent or transient reproductions such as those projected briefly on a screen, shown electronically on a television or other cathode

ray tube, or captured momentarily in the 'memory' of a computer."

H.R. Rep. No. 94-1476, 94th Cong., 2nd Sess. 53, reprinted in [1976] U. S. Code Cong. & Ad. News 5659, 5666. When read in context, however, the "purely evanescent or transient reproductions" referred to by Congress are those arising from live telecasts or performances that are nowhere separately recorded. Clearly, the lack of any recording of such events would preclude their ever again being identically reproduced. In the instant case, the copyrighted material is recorded in the ROMs and may be reproduced with the aid of the microprocessor. While the technology of the reproduction is different than that encountered with videotape, Congress has allowed for that eventuality by allowing for fixation in mediums of expression either "now known or later developed." 17 U.S.C. §102(a). The technology used in the video games is one such later developed medium of expression.

Defendant also claims that Midway's copyright in the video games is void because Namco, the developer of both games, published them in Japan without attaching any copyright notice. 17 U.S.C. §401(a) provides that:

"Whenever a work protected under this title
is published in the United States or elsewhere by
authority of the copyright owner, a notice of copy-
right as provided by this section shall be placed
on all publicly distributed copies from which the
work can be visually perceived, either directly or
with the aid of a machine or device." }

Evidence was presented at the hearing which showed that Namco's game machines did not display a copyright notice. Artic argues that the failure to attach a copyright notice to those games voids Midway's copyrights.

Defendant's argument is not supported by the Copyright Act, however. The statute only requires notice to be placed on those copies published "by authority of the copyright owner." Id. Midway is the owner of the United States copyright in the games, as is evidenced by the certificates of registration. As noted above, all copies of the games published or sold by Midway contained sufficient notice to comply with the requirements set forth in the Act. Midway did all that it could reasonably do to comply with the Act. It has no control over the actions taken by Namco in Japan. See Goldman-Morgen, Inc. v. Dan Brechner & Co., 411 F.Supp. 382, 389-90 (S.D.N.Y. 1976).

Finally, Artic suggests that Midway has attempted to acquire copyright protection for utilitarian objects, which are not the proper subjects of copyright protection. Artic's argument here is apparently in two parts. Artic initially claims that Midway's attempt to copyright the audiovisual aspects of its games was, in reality, an attempt to copyright the ROMs in the games. Because the ROMs are utilitarian objects, they may not be copyrighted. See Esquire, Inc. v. Ringer, 591 F.2d 796 (D.C.Cir. 1978), cert. denied, 440 U.S. 908 (1979). While the court agrees that utilitarian objects may not be copyrighted, it appears that Artic has misconstrued the copyrights at issue in this case. As noted above, Midway has sought and obtained protection for the audiovisual aspects of its games that appear on the screen. Midway no more restricts the use of ROMs than an author with a valid copyright restricts the use of books.

The second part of defendant's argument here apparently rests on the contention that games are themselves utilitarian objects

and, therefore, cannot be the subject of copyright protection. As it did in its earlier opinion, the court once again must reject that argument. To again quote Professor Nimmer:

"It is true that no copyright may be obtained in the system or manner of playing a game or in engaging in any other sporting or like activity. However, some limited copyright protection is nevertheless available in connection with games. It would seem that a relatively minimal artistic expression, if original, would render copyrightable labels for games, as well as the pattern or design of game boards. . . ."

1 Nimmer on Copyrights §2.18[H][3]. As discussed above, Midway has obtained copyright protection for the artistic expression which appears on the screen of its games (the "game board" in this instance).

C. Registration of Midway's Copyrights

Artic claims that Midway was guilty of several instances of improper or fraudulent conduct before the Copyright Office when attempting to register its copyrights in the two video games. The alleged fraud is the basis for Artic's motion for summary judgment on the copyright claims, which motion will be discussed at the present time.

The legal effect of fraud on the Copyright Office has been stated as follows:

"The knowing failure to advise the Copyright Office of facts which might have occasioned a rejection of the application constitute reason for holding the registration invalid and thus incapable of supporting an infringement action, 1 Nimmer §94, or denying enforcement on the ground of unclean hands . . ."

Russ Berrie & Co. v. Jerry Elsner Co., 482 F.Supp. 980, 988 (S.D.N.Y. 1980). See Vogue Ring Creations, Inc. v. Hardman, 410 F.Supp. 609 (D.R.I. 1976). Defendant's motion for summary judgment relies largely

on its claim, discussed above, that plaintiff Midway has succeeded in copyrighting only the videotapes it submitted to the Copyright Office. On the basis of that assumption, Artic says that a number of the statements made by Midway on the applications for its copyrights were false. Specifically concerning the Galaxian application, Midway stated that the work that it was copyrighting was published in Japan on September 15, 1979, by Namco, Limited, the author of the work. As Artic notes, those facts are not correct if the "work" copyrighted was the videotape, which was made by Midway in Illinois on February 14, 1980, and never published at all.

In addition, Artic relies on the testimony of one David Albee, Senior Copyright Examiner for the Copyright Office. Mr. Albee was the examiner who handled Midway's Galaxian and Pac-Man copyright applications. He testified at a hearing held before the United States International Trade Commission, which was considering many of the issues currently before this court, and a transcript of his testimony was admitted into evidence before the court during the preliminary injunction hearing. To the extent that Mr. Albee was able to remember anything about the video game applications, he testified that an attorney for Midway told him that the videotapes had been published and that the copies were used for promotional purposes. Mr. Albee also testified that he viewed the tapes.

Finally, Artic points out that, in its cover letters submitted with the copyright applications, Midway states that it is depositing "one copy" of the work to be copyrighted. Artic states that the videotapes were, at best, only "identifying material" rather than

copies of the work. Artic claims that Midway never informed the Copyright Office that it was submitting "identifying material" instead of copies of the works until long after the certificates of registration were issued.

Viewing the evidence presented by Artic as a whole, it is clear that Artic has not met its burden of showing that Midway defrauded the Copyright Office. Much of Artic's alleged evidence of fraud is based on the mistaken proposition that Midway's trademarks cover only the videotapes submitted to the Copyright Office. As noted, the videotapes are merely copies of the work to be copyrighted. Consequently, the statements made by Midway in its letters and application to the Copyright Office were, so far as the evidence shows, entirely proper and certainly not fraudulent.

The court also is not persuaded by the testimony of Mr. Albee. The Administrative Law Judge, who was in charge of the hearing before the International Trade Commission and who observed Albee's testimony personally, stated as follows:

"The testimony of Examiner Albee does little to prove Artic's allegations. . . . The witness stated repeatedly that he did not recall specific details. To the extent he could recall, that recollection was sketchy at best. This fact is well illustrated by his testimony that he viewed the entire videotape deposited with him. . . . Since the content of that tape clearly conflicts with some of his hazy impressions of representations allegedly made to him by Mr. Larson [Midway's attorney], it is impossible to place any credence in those recollections. The testimony of Messrs. Deitz and Larson are substantially in agreement as to the critical facts. Consequently, there is no basis for a finding of material misrepresentation as to what was being deposited for what purpose."

In re Certain Coin-Operated Audiovisual Games and Components There-
of (viz Rally-X and Pac Man), Investigation No. 337-TA-105, slip op.
at 55 (U. S. Int'l. Trade Comm. Nov. 16, 1981) (Recommended Determina-
tion of John J. Mathias, Administrative Law Judge). The court has re-
viewed the transcript of Mr. Albee's testimony, and is in complete
agreement with the Administrative Law Judge. It is not surprising
that a copyright examiner would have difficulty remembering the facts
surrounding a particular copyright application. Testimony presented
at the International Trade Commission hearing indicated that each
examiner reviews as many as 10,000 different applications per year.

The above analysis by the court should not be taken to
mean that the court totally disagrees with the propositions put forth
by Artic. It does appear that the applications and procedures follow-
ed by Midway in registering its copyrights were not entirely clear
and straightforward. However, much of whatever confusion there was
appears to have resulted from the fact that Midway was attempting to
copyright new technology that the Copyright Office had never directly
dealt with before. Particularly in view of that situation, the court
is guided by the following statement in Freedman v. Milnag Leasing
Corp., 20 F.Supp. 802, 804 (S.D.N.Y. 1937):

"It will not do to be overstrict as to the
technicalities of the Copyright Act. . . . If
the statute is substantially and in good faith
complied with by a person seeking coyright
protection and if others have not been misled
into thinking that the work is not copyrighted,
it is enough."

See also Johnson v. Salomon, 197 U.S.P.Q. 801, 820-21 (D.Minn. 1977);
Champion Map Corp. v. Twin Printing Co., 350 F.Supp. 1332 (E.D.N.C.
1971). No evidence has been presented here that anyone was misled by

any of Midway's actions. Consequently, Artic's motion for summary judgment on the copyright issues is denied.

In addition to claiming that Midway engaged in fraud before the Copyright Office, Artic also argues that Midway failed to comply with the requirements of 17 U.S.C. §205(d). That subsection provides:

"No person claiming by virtue of a transfer to be the owner of copyright or of any exclusive right under a copyright is entitled to institute an infringement action under this title until the instrument of transfer under which such person claims has been recorded in the Copyright Office, but suit may be instituted after such recordation on a cause of action that arose before recordation."

Artic's arguments under this section center on the Pac-Man registration. The recorded document for that copyright is dated October 10, 1980, and is entitled "Assignment of Copyrights." It reads in part as follows:

"Namco Limited . . . has assigned to and does hereby assign to Midway Mfg. Co. . . . the entire right, title and interest in common law and statutory copyrights in and to said Game [Pac-Man] in the United States and The Western Hemisphere."

On the following day, a representative of Midway signed and dated a letter to the president of Namco relating to the assignment of the copyrights. That letter states in full:

"Midway Manufacturing Co. fully understood and agreed that the "ASSIGNMENT OF COPYRIGHTS" for both [PAC-MAN] and [RALLY-X] which were signed by Namco's representative and granted to Midway Mfg. Co. shall be governed and restricted by the License Agreement of the above games. The License Agreement above mentioned shall be finalized no later than November 15, 1980."

Finally, on November 4, 1980, Namco and Midway entered into a formal "LICENSE AGREEMENT" under which Midway received the full rights

to market the Pac-Man game in the United States. Paragraph 2(b) of that document once again purports to transfer from Namco to Midway all United States copyrights in the Pac-Man game. Artic claims that the October 10 document which was recorded was not the "instrument of transfer" required by the statute. Rather, Artic says that Midway should have recorded the November 4 license agreement, which, Artic argues, actually transferred the copyrights.

The court begins its analysis by noting that the language of the assignment, by its terms, clearly transfers Namco's copyrights in the Pac-Man game to Midway. That transfer is not repudiated in the subsequent letter from Midway to Namco. The letter only states that the extremely general grant, registered with the Copyright Office, is subject to a more specialized agreement between the parties. It is instructive to note that the more specialized license agreement, insofar as the copyright is concerned, is entirely consistent with the earlier assignment. Apparently, the practice followed by Midway in this case is well accepted by the Copyright Office. Professor Nimmer states:

"A transferee sometimes hesitates to record his transfer for the reason that he does not wish the amount or nature of the consideration which he has paid to become a matter of public knowledge. This problem is often solved through the device of the so-called 'short form' document of transfer. That is, at the same time the transferor executes the full contract of transfer which recites the consideration which the transferee has or will thereafter pay to the transferor, a second short form document is also executed by the transferor which recites in full the rights transferred but which refers to the consideration therefor either in general terms (e.g., 'for good and adequate consideration') or which refers to the longer document for a recitation of the consideration. Only the short form is recorded."

3 Nimmer on Copyright §10.07[A], n. 2 (1981). While there are some technical differences between the practice described by Professor Nimmer and that followed by Midway in the instant case (i.e., the two documents were not executed at the same time and the "short form" that was recorded does not contain a purely formalistic statement of consideration), the court does not believe that those differences are significant. The court finds that Midway adequately complied with the requirements of 17 U.S.C. §205(d).

D. Artic's Infringement of Midway's Copyrights

Section 106 of the Copyright Act provides the following exclusive rights to the holders of valid copyrights:

"(1) to reproduce the copyrighted work in copies . . . ;

"(2) to prepare derivative works based upon the copyrighted work;

"(3) to distribute copies . . . of the copyrighted work to the public by sale or other transfer of ownership, or by rental, lease, or lending;

"(4) in the case of . . . motion pictures and other audiovisual works, to perform the copyrighted work publicly; and

"(5) in the case of . . . the individual images of a motion picture or other audiovisual work, to display the copyrighted work publicly."

17 U.S.C. §106. Midway claims that one or more of those exclusive rights are violated by Artic's sale of its Puckman printed circuit boards and its Galaxian speed-up kits.

Turning first to the Puckman printed circuit boards, Midway contends that their sale violates its right to make copies. Artic's circuit boards fit well within the definition of "copies" under 17 U.S.C. §101, because they are "material objects . . . in which a work

[here Puckman] is fixed . . . and from which the work can be perceived . . . with the aid of a machine."

Artic suggests that this court should not find that its circuit boards infringe Midway's valid copyrights, because no evidence showing direct proof of copying was presented at the hearing. Courts, however, have recognized the difficulty that plaintiffs are likely to have in finding direct proof of copying of a protected work, and have allowed a finding of copying from evidence that the defendant had access to the copyrighted work and that defendant's work is substantially similar to plaintiff's. See Walker v. University Books, Inc., 602 F.2d 859 (9th Cir. 1979); Granite Music Corp. v. United Artists Corp., 532 F.2d 718 (9th Cir. 1976).

Here, there is ample evidence of Artic's access to the copyrighted work. Artic's president admitted that he became aware of Namco's Puckman game in Japan before Artic began selling the printed circuit boards. In addition, Artic began selling the boards after Midway's Pac-Man game was widely distributed in the United States. It was also demonstrated at the hearing that Artic's Puckman game is not only "substantially similar" to Midway's Pac-Man, but that the two games are, in fact, essentially the same. There is ample evidence that Artic copied Midway's Pac-Man game.

Artic makes two arguments which, it claims, preclude a finding of infringement, even if the court finds that Artic copied Midway's Pac-Man game. First, Artic urges this court to follow the district court holding in Data Cash Systems, Inc. v. JS&A Group, Inc., 480 F.Supp. 1063 (N.D.Ill. 1979), aff'd on other grounds, 628 F.2d 1038 (7th Cir. 1980). That case involved a computer program designed

to be used in a computerized chess game. The written program itself was copyrighted by the plaintiff in that case. The program was then embodied in a ROM, which was made part of a hand-held computer chess game. The defendants allegedly copied plaintiff's ROM and used it in a computer chess game of their own. The district court granted summary judgment for the defendants, stating,

"Even assuming that the ROM in plaintiff's CompuChess was copied by defendants JS&A, Sugarman and Stanke, the ROM is not a 'copy' of plaintiff's computer program and therefore the copying is not actionable. Since a complete defense as a matter of law with respect to plaintiff's claim of copyright infringement exists, the motion of defendants JS&A, Sugarman and Stanke for summary judgment is granted . . ."

480 F.Supp. at 1069. Artic argues that, if it copied anything from Midway's game, it copied the ROMs only. Therefore, following Data Cash, the court should find as a matter of law that no infringement took place.

The court, however, is unable to accept Artic's argument. Initially, it is important to note that, in affirming the district court's outcome in Data Cash, the Seventh Circuit Court of Appeals expressly refused to consider the grounds relied upon by the lower court, saying, "The parties had neither briefed nor argued that issue and neither side on appeal defends the district court's position, so we do not consider it further." 628 F.2d at 1041. Also, another district court has expressly rejected the lower court's reasoning in Data Cash. See Tandy Corp. v. Personal Micro Computers, Inc., No. C-81-0744 RFP (N.D.Cal. Aug. 31, 1981).

This court as well is not persuaded by the lower court's reasoning in Data Cash. To reach its conclusion that a ROM can never,

as a matter of law, be a "copy" of anything, that court adopted the following definition of the word "copy": "Both at common law and under the 1909 Act, a 'copy' must be in a form which others can see and read." 480 F.Supp. at 1068. That definition is far narrower than the one adopted by Congress and included in the current Copyright Act. As noted above, the word "copy" is there defined, among other things, as a material object in which the work is fixed "and from which the work can be perceived . . . with the aid of a machine." 17 U.S.C. §101. By its very terms, that includes items like videotapes and tape recordings that cannot be read with the naked eye, and definitely covers the ROMs used by Midway in its Pac-Man game. This holding is supported by the General Counsel of the International Trade Commission. He said,

"Complainant further argues that if a work is embodied in an object, be it a ROM, a tape or a disc, that work is copyrightable, regardless of whether machines, with or without the aid of computer programs, are necessary for the work to be visually perceived. As stated by Nimmer, 'a work is no less a motion picture (or other audio-visual work) because the images are embodied in a video tape, video disc, or any other tangible form.' 1 Nimmer §2.09[D]. . . . The General Counsel agrees with this position."

Memorandum from the General Counsel of the International Trade Commission to The Commission, at 7 (June 8, 1981).

Artic also suggests that its copies of the Pac-Man printed circuit boards do not constitute infringement of Midway's copyright, because the boards are useful devices that may be and are used to repair defective or broken video games. This argument is easily disposed of. Whether or not Artic's statement of the relevant law is

correct, no evidence was presented at the hearing which tended to show that Artic's Puckman circuit boards were used for innocent purposes. To the contrary, there was substantial evidence presented which showed that even Artic recognized that its boards were being used in contravention of the law. As soon as this suit was filed, Artic began taking every effort to disguise the fact that it was selling Puckman circuit boards.

The question of whether Artic's speed-up kits, used in Midway's Galaxian game, violate any of Midway's exclusive rights is more difficult. Fortunately, many of those difficulties were dealt with in this court's June 2, 1981, ruling in this case denying Artic's motion for summary judgment.

Midway again claims that Artic's speed-up kits violate the second of its five exclusive rights provided by the Copyright Act, specifically, the right "to prepare derivative works based upon the copyrighted work." 17 U.S.C. §106. In its earlier opinion, the court stated:

"The court believes that the success of this theory depends on the resolution of two key factual questions. The first factual question concerns the scope of the copyright. It is, of course, impossible to tell whether defendant has induced others to prepare a derivative work, when the court is uncertain as to what original work was copyrighted. As noted, the scope of the copyright is in dispute between the parties. Second, there is also the factual question of whether the speed up kits are designed and used solely to modify the visual images of plaintiff's copyrighted game or whether the device can be used in a variety of electronic games."

Midway, supra, slip op. at 18. The evidence presented at the hearing allows the court to now address those factual concerns.

As this court discussed at length above, the copyrighted work at issue in this case is the audiovisual display that appears on the video game's screen. The speed-up kit sold by Artic clearly changes that display during the play mode of the game. The characters in the game move at a faster speed, and the number of alien characters that attack the character controlled by the player is increased. Such modifications of plaintiff's copyrighted display fit well within the definition of derivative works. . .

Also, the facts presented at the hearing clearly show that the speed-up kit was designed solely to modify Midway's Galaxian game. In no way can it be described as a technological breakthrough benefitting the entire electronic games industry. The evidence showed that the speed-up kit is physically compatible with very few games other than Galaxian. To the extent that the kit did work in other games, it changed them in ways which further showed that it was meant to be used only in the Galaxian game. For example, it caused the words "WE ARE THE GALAXIANS" to appear on the screens of the other games, and caused the characters of those games to move in a way extremely similar to the way the characters in the Galaxian game moved. Also, the earliest advertising used by Artic to promote its speed-up kits referred only to speeding up Galaxian games. No other use of the kits was mentioned. In view of the above factual showings, the court concludes that Artic's speed-up kits are infringing "derivative works" of Midway's Galaxian video game.

In summary, the court is convinced that Midway has shown a likelihood of success on its copyright claims, despite the plethora of arguments to the contrary raised by Artic. Midway has shown that

it is the owner of valid copyrights covering the audiovisual features of both its Galaxian and Pac-Man video games. Midway has also shown that those copyrights are infringed by the actions of the defendant, Artic. Because the court believes Midway will prevail on its copyright claims, it is not necessary for the court to consider Midway's claims based on its trademarks, the Lanham Act, and various provisions of state and common law.

II. Irreparable Harm

In a copyright infringement case, the burden on the plaintiff to show irreparable harm necessary to support a preliminary injunction is very light. In fact, if the plaintiff can show probable success on the merits, the requisite irreparable injury is normally presumed.

Wainwright Securities Inc. v. Wall Street Transcript Corp., 558 F.2d 91 (2d Cir. 1977), cert. denied, 434 U.S. 1014 (1978); Novelty Textile Mills, Inc. v. Joan Fabrics Corp., 558 F.2d 1090 (2d Cir. 1977).

Defendant attempts to rebut this assumption of irreparable harm, at least so far as the Galaxian game is concerned, by noting that Midway no longer sells that game. Consequently, Midway could not possibly lose any sales as a result of defendant's infringement. Particularly in the case of the speed-up kit, however, that showing is not enough to rebut the presumption of irreparable harm. Plaintiff's reputation for high quality and distinctive video games is entitled to protection from copyright infringers, just as its potential sales are. See Dallas Cowboys Cheerleaders, Inc. v. Pussycat Cinema, Ltd., 604 F.2d 200 (2d Cir. 1979). Artic's speed-up kit modifies Midway's Galaxian game in such a way as to make it considerably more

difficult, for the unskilled player in particular. It is very possible, if not likely, that that will discourage those individuals from playing Midway's video games, and so reduce the overall demand for plaintiff's games as a whole. Such damages would be impossible to measure in monetary terms.

III. Balance of Hardships

If this preliminary injunction does not issue, Midway's substantial investment in Galaxian and Pac-Man, two extremely popular video games, will be jeopardized. On the other hand, Artic's president has testified that Artic has a substantial business in the sale of integrated circuits, that the speed-up kit is not a substantial part of Artic's business, and that Artic sells printed circuit boards for about thirty different games. In view of that, the court finds that the balance of hardships clearly favors issuing an injunction. See Midway Manufacturing Co. v. Drikschneider, supra, slip op. at 20.

IV. The Public Interest

The Copyright Act evidences a public interest in creativity by demonstrating an intent to provide an economic reward for creative expression. By granting an injunction here, the court would be furthering that interest by rewarding plaintiff's development and dissemination of new video games. The court can conceive of no public interest that is furthered by allowing defendant to continue to distribute and sell its infringing material.

V. Conclusion

For the reasons stated above, the court finds that plaintiff has successfully demonstrated that all elements necessary for issuing

a preliminary injunction are present in this case. Therefore, plaintiff's motion for preliminary injunction is granted, and defendant's motion for summary judgment on copyright issues is denied. Defendant Artic and its agents and servants are hereby preliminarily enjoined from selling, marketing, distributing, or otherwise disposing of the items found in this opinion to infringe plaintiff Midway's copyrights in the Galaxian and Pac-Man video games, and defendant is preliminarily enjoined from inducing others to infringe those copyrights. Plaintiff will prepare an appropriate order to submit to the court, and at that time, bond will be fixed.

ENTER:

Bernard M. Dickson
United States District Judge

DATED: March 10, 1982.